

4.5; distance between cenchri 1.4 x width of cenchrus; mesepisternum obtusely raised without carina or acute apex; metabasitarsus and three following segments combined are in ratio 1 : 1.5; tarsal claws simple without inner tooth; IATS : MB : OATS = 1 : 2 : 1.

Male genitalia: Penis valve (Fig. 4). Gonoforceps (Fig. 5).

Sculpture: Head and thorax with large deep, irregular confluent punctures; abdomen excepting anterior margin and middle of first abdominal tergum, deflexed sides of all terga and all sternites are distinctly punctured. The remaining terga are cross-striated.

FEMALE: Not found.

Holotype: Male, Jammu and Kashmir: Pahalgam, 2700 m. 5 June 1984. Regd. No., D1/RIT/ZPD. Holotype presently in author's collection. After this paper is published it will be submitted to the IARI, New Delhi.

Population variation: Single specimen examined.

Distribution: INDIA: Jammu & Kashmir.

Diagnosis: On the basis of black colouration of body, this new species is close to the male of *D. hytacharernae* Smith, but varies as follows : in *D. Kashmirensis*, head and thorax have large, deep irregular confluent punctures; abdomen excepting the anterior margin and middle of first abdominal tergum, deflexed sides of all terga and all sternites are distinctly punctured. In *D. hytacharernae* punctures of head and thorax are dense with very short or without inter-spaces; dorsum of abdomen not punctured except extreme lateral area of terga and sterna which are punctured.

Etymology: The species name is based on the Indian state in which the collection locality falls.

ACKNOWLEDGEMENTS

We are thankful to Dr. D.R. Smith (USNM Washington) for endowing the type of *D. hytacharernae* a species that closely resembles *D. kashmirensis* sp. nov. The financial assistance rendered by CSIR, New Delhi is also gratefully acknowledged.

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A NEW GENUS OF ANTHURIDAE (CRUSTACEA: ISOPODA: ANTHURIDEA) FROM VISAKHAPATNAM COAST¹

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(With seventeen text-figures)

A new anthurid genus, namely *Heteranthroides* gen. nov. and a new species, *H. rishikondensis* sp. nov. of the family Anthuridae is described from Visakhapatnam coast (Bay of Bengal), collected from the sponge *Callyspongia fibrosa*. Similarities and dissimilarities and related genera and species are discussed.

In the present paper, a new genus *Heteranthroides* of the family Anthuridae and a new

species *Heteranthroides rishikondensis* are described.

Heteranthroides gen. nov.

Large eyes present in male. Antennular flagellum of eight articles and peduncle of two

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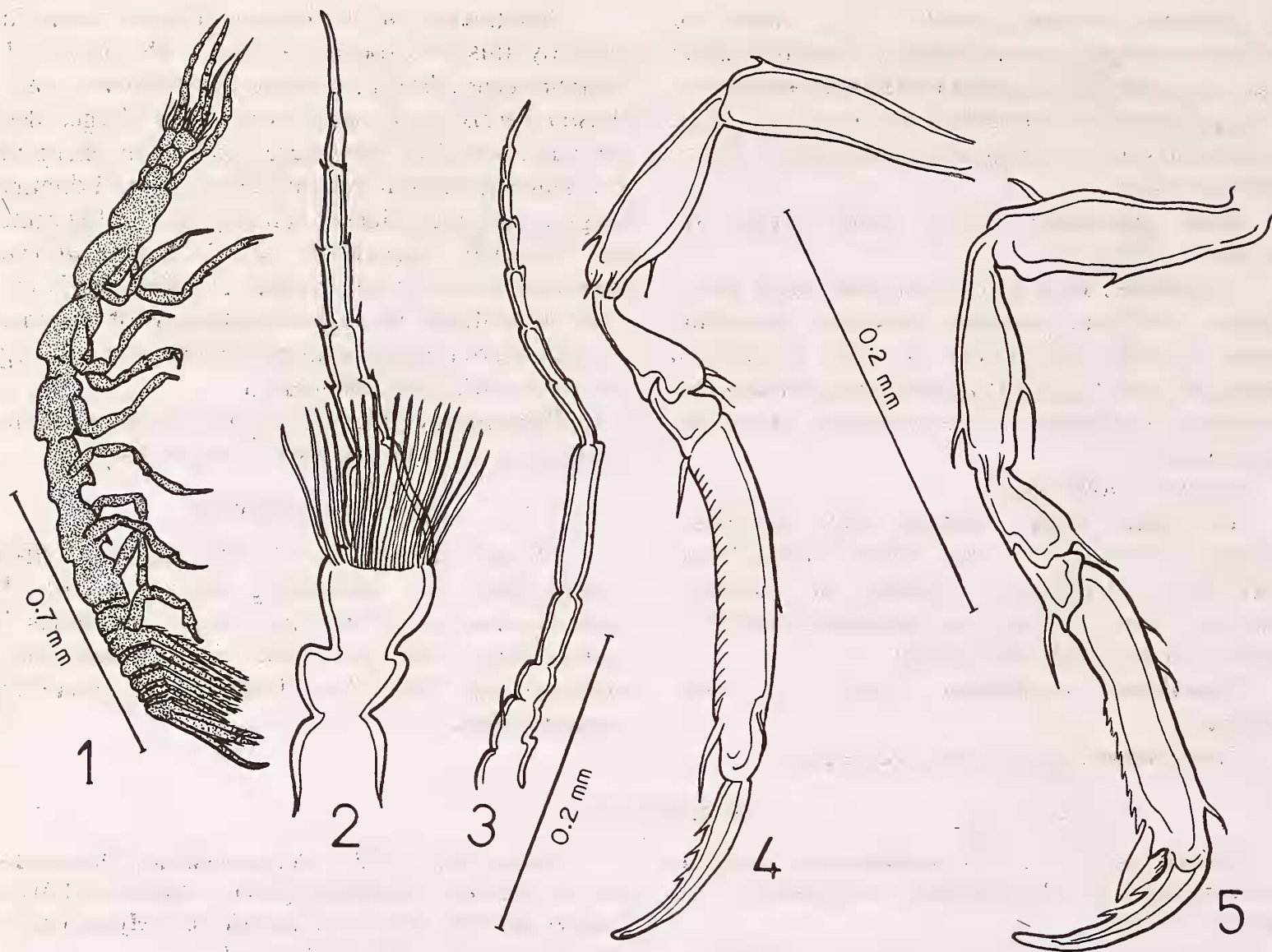


Fig. 1. *Heteranthroides rishikondensis* sp. nov. ; Fig. 2. Antennule; Fig. 3. Antenna; Fig. 4. First pereopod; Fig. 5. Second pereopod.

segments, antennal flagellum of six articles, rostrum present. Maxilliped small and seven-segmented. Pereonites 1-6 with mid-dorsal pit. All pereopods non-chelate, not underriding propodus. Pleonites 1-4 free and distinct, pleonite 5 concealed. Dorsal apex of exopod provided with a strong, blunt brush spine.

The new genus is allied to *Allanthura* Kensley, 1980 in the presence of eyes; in the well developed incisor, lacinia and molar of mandible and operculiform first pleopod, but differs in the segmentation of antennule and antenna, the number of segments of maxilliped, in the pereopodal structure and the fused nature of pleonites 1-5 and the pleonite 6 not being united. It shows a similarity to the genus *Diaphoranthura* in the presence of

eyes, in the segmentation of flagellum of antennae, in the well developed incisor, lacinia and molar; in the operculiform first pleopod; in having 1-6 free pleonites and differs in antennule, segmentation of maxilliped, in the subchelate nature of pereopods 1-3 and a telson which bears a single median statocyst.

It resembles *Exallanthura* Kensley, 1980 in the presence of eyes, in well developed lacinia, incisor and molar and differs in the segmentation of maxillipeds and the subchelate nature of first pereopod, and the present form has a seventh pereopod.

The present genus resembles the genus *Heteranthura* in the seven-segmented maxilliped and middorsal pit in each 1-6 pereonites; it differs in

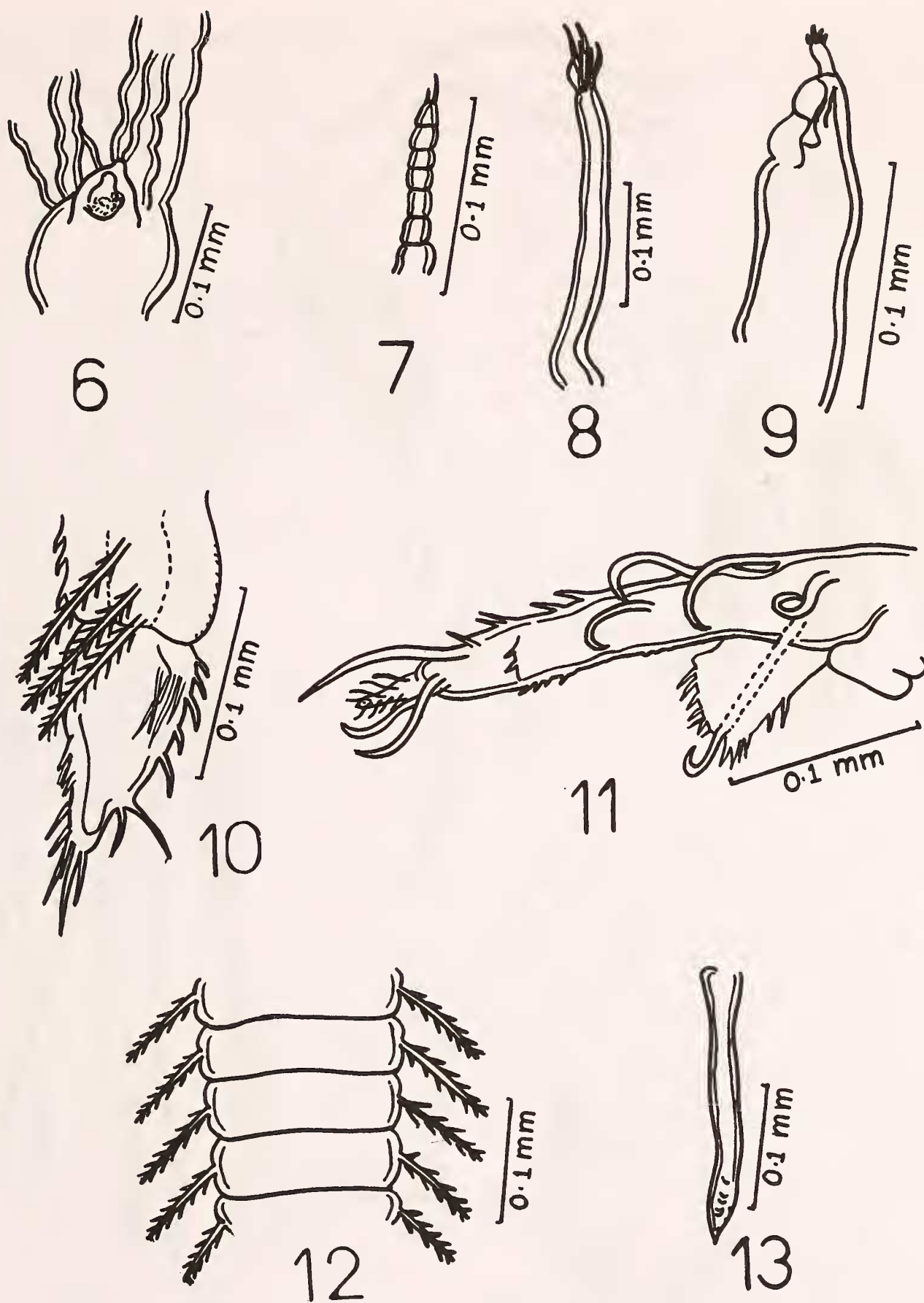


Fig. 6. Ventral view of cephalon; Fig. 7. Maxilliped; Fig. 8. Maxillule; Fig. 9. Mandible; Fig. 10. Uropodal endopod; Fig. 11. Uropodal exopod; Fig. 12. Pleon; Fig. 13. Masculinum appendix of second pleopod.

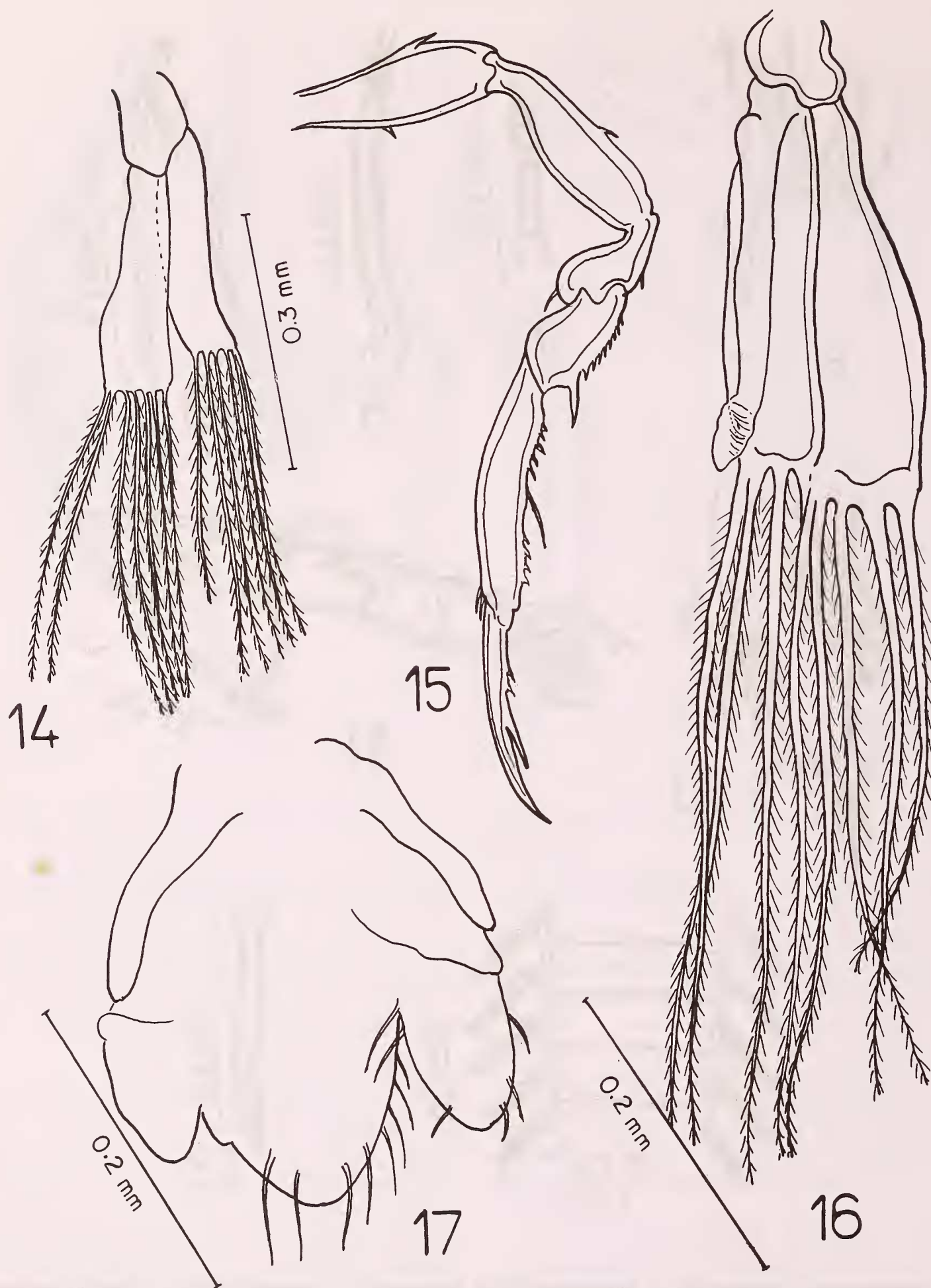


Fig. 14. First pleopod; Fig. 15. Fourth pereopod; Fig. 16. Second pleopod; Fig. 17. Telson.

the segmentation of antennule and antenna and the reduced mandible.

Thus taking the present specimens into account, the characters sufficient to create a new genus *Heteranthroides*

Heteranthroides rishikondensis

sp. nov.

MALE: Body slender and elongated, cephalon slightly more than half the length of first pereonite; pereonites two and three equal in length and first pereonite slightly shorter than them; fourth shorter than first; fifth and sixth about equal in length and seventh shortest. Cephalon wider than long; very large composite eye present. The anterior margin of cephalon produced anteriorly between the two antennae which may be due to the closely packed antennules. The last two segments of pleon not very distinct, each pleonite gives off a plumose seta laterally.

The peduncle of antennule two-segmented, these are very thick, the basal segment is slightly longer than the second. The flagellum comprises eight segments. The first flagellar segment bears a cluster of very long aesthetascs which are arranged in three to four tiers. The terminal segment bears two large spines and the fourth, fifth, sixth and seventh segments bear an aesthetasc each. The antenna has a flagellum of six segments, the terminal three segments of which are provided with setae.

Rostrum of cephalon low, from the ventral side, the oral aperture has a rounded base and extends along the sides of rostrum which is rather conical. At its base the apices of setae and hairs of mouth parts can be seen. Maxillule slender and elongated and the terminal region provided with setae. Maxilliped very small, slender and 7-segments; the apical segment bears two setae. The segmentation of mandibular palp not distinct but incisor, lacinia and molar well developed.

The unguis of first pereopod sharper and smallest of all and about three times the length of dactyle, the dactylus is longer and slender, the propodus is not straight but slightly bent and armed with 21-22 spinules and one strong ventro-distal spine, carpus reduced and bears 6 simple setae and

one long seta. The unguis of second pereopod is one and two thirds the length of dactyli. The propodus is broader and shorter and bears a long simple seta in the inner margin, on either side of which are arranged 10 smaller simple setae and one stout spine at its apex; the carpus is broader and bears only one seta on the inner margin and about 3 longer simple setae on the outer margin. The unguis of seventh pereopod is one and one third the length of dactylus. The propodus is slender and elongated, the inner margin bears 6 simple setae and there is a spine at its apex, the arch beyond it is fringed with small setae.

The fifth pleonite not distinct, all pleonites provided with a plumose seta each on either side. The endopod of first pleopod provided with five long plumose setae and the exopod with 7 plumose setae. The appendix masculinum of second pleopod is slightly longer than the endopod, it has a regular outlined lip up to about four fifths of the length where it broadens and tapers to an acute tip; in this region the margin is irregular or almost serrated and the first pair of pleopods are operculiform.

The outline of telson is roughly linguiform. The tip of posterior margin has small setae, on either side of which are arranged about 8 setae; of these the posterior ones are small and the four that occur towards the apex are long. The ventral region of exopod bears three very long and strong plumose setae arranged one below the other, and the dorsal region of exopod is hairy and covered with about 7 very long simple setae and its apex terminates in a thick and strong blunt brush-spine; its ventral region is transparent and lamellar in structure at the apex of which arises a long seta and the margin of this structure bears simple seta. The inner margin of uropodal rami bears about 6 setae and the outer margin is fringed with hairs.

Localities: The specimens were collected from the rocky intertidal region of Rishikonda, Visakhapatnam.

Material studied: Three male specimens were collected from the sponge *Callyspongia fibrosa* along the rocky intertidal region of Rishikonda, Visakhapatnam. Holotype 1 male and paratypes 2 males are kept in the Department of Zoology, Andhra University, Visakhapatnam.

Habitat: The specimens were found in association with the sponge *Callyspongia fibrosa* as commensals.

DISCUSSION

The present form resembles *Panathura macronesia* Kensley, 1980 in bearing very thick and stout peduncular segments but differs in the number of segmentation and in all other characters. It resembles *Malacanthura mombase* Kensley, 1980 in having large eyes and well developed incisor, lacinia and molar of mandible, but differs in all other features. It resembles *Exallanthura sexpes* Kensley, 1980 in having the incisor, lacinia and molar of mandible but differs in all other particulars. The present form resembles *Diaphoranthura hapla* Kensley, 1980 in the segmentation of antennal flagellar segmentation and in the presence of incisor, lacinia, molar, and the uropodal exopod folds dorsally over telson, but differs in the other characters. It resembles

Diaphoranthura cracens Kensley, 1980 in having well developed eyes, and a relatively large rostrum and in both, the antennal flagella is 6-segmented; they differ in all other characters. The present form resembles *Heteranthura anomala* Kensley, 1980 in the indurate integument, with a low rostrum, a 7-segmented maxilliped, presence of mid-dorsal pit in pereonite 1-6, free pleonite, 1-5 subequal, and each pleonite with prominent plumose seta laterally, but differs in the segmentation of antennule and antenna and the mouthparts and in all other characters.

Since the present form differs from all the above species in the aforesaid characters, it is described as a new species.

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AENHENRYA: A NEW GENUS OF ORCHIDACEAE FROM SOUTHERN INDIA¹

R. GOPALAN²

(With nine text-figures)

This new genus is based on a recent gathering by me from the Agastyamalai range in the Southern W. Ghats of India, a region that continues to yield a steady stream of novelties in orchids and other families.

Aenhenrya gen. nov.

Herba terrestris; rhizoma repens, crassum, moniliforme, succulentum (hyalinum); radices pilosae, pusillae, fasciculatae; caules

decumbentibus, succulentis. Folia orbiculo-ovata, carnosae. Inflo-rescentia 1-2-florata; scapus albohirsutus; flores albi. Sepala alba, extus longo-hirsuta; sepala dorsalis petalis labio et columna includentia. Petalis falcato-oblonga. Labium ad basim columnae affixum, 3-labatum; labia lateralia duplicato-plicata, margo fimbriatus; midlobus 3-lobulatus, lobulus lateralis oblongo-ovatus, midlobulus triangulare rostratus; appendix ensata ad basim labii adnatus; ligula 2 ad basim labii adnatus. Columna longa, crassa, angularis, dorso sulcata, furcata ad apicem 2-densibus semi-lunaribus; appendices 2 in sulcum dorsalem inclusae; appendix supera curta, linearis et

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